

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB2005/000802

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N27/30 G01N27/48 C01B31/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N C01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, COMPENDEX, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PANDURANGAPPA M ET AL: "Homogeneous chemical derivatisation of carbon particles: a novel method for functionalising carbon surfaces." THE ANALYST. DEC 2002, vol. 127, no. 12, December 2002 (2002-12), pages 1568-1571, XP009049469 ISSN: 0003-2654	1-15, 21-33, 36-39, 59-65, 68-70
Y		40-43, 47-52, 72-74, 76
A	the whole document	16-20, 34, 35, 44-46, 54-56, 58, 66, 67, 75
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

28 June 2005

Date of mailing of the international search report

12/07/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Johnson, K

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	WO 02/060812 A (WILLIAM MARSH RICE UNIVERSITY) 8 August 2002 (2002-08-08)  page 3, line 30 - page 4, line 6 page 5, line 22 - page 10, line 29 page 15, line 6 - page 17, line 3 page 21, line 28 - page 22, line 10 figures 1,11,12,23 -----	62-68, 70,71 40-43, 47-52, 72-74,76 5,15,21, 22, 29-35, 53,69
X A	DELAMAR M ET AL: "Modification of carbon fiber surfaces by electrochemical reduction of aryl diazonium salts: application to carbon epoxy composites" CARBON, ELSEVIER SCIENCE PUBLISHING, NEW YORK, NY, US, vol. 35, no. 6, 1997, pages 801-807, XP004073601 ISSN: 0008-6223  Section 3.1 'Grafting in aprotic medium' -----	1-3,5-7, 21-25, 27,28, 30-33, 36-38, 62-65, 68-70  34,35
X Y A	WILDGOOSE G G ET AL: "Anthraquinone-derivatised carbon powder reagentless voltammetric pH electrodes" TALANTA, ELSEVIER, AMSTERDAM, NL, vol. 60, no. 5, 27 June 2003 (2003-06-27), pages 887-893, XP002321019 ISSN: 0039-9140  the whole document -----	1,3-5, 7-15,21, 23,25, 26,59-61  16-18 27, 40-42, 47, 50-52, 54,55, 58,62, 71-73,76
Y A	US 5 223 117 A (WRIGHTON ET AL) 29 June 1993 (1993-06-29) cited in the application  column 2, line 67 - column 8, line 14; figures 1,2 ----- -/--	16-18  8-15, 42-44, 47-49

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PANDURANGAPPATA M ET AL: "Physical adsorption of N,N'-diphenyl-p-phenylenediamine onto carbon particles: application to the detection of sulfide." THE ANALYST. MAY 2003, vol. 128, no. 5, May 2003 (2003-05), pages 473-479, XP009049467 ISSN: 0003-2654 the whole document	1,3-5,7, 21,22, 25,27, 28,59,61
X	US 3 926 764 A (RUZICKA ET AL) 16 December 1975 (1975-12-16)	1-5, 7-15,17, 21,22, 59-61
Y	column 5, line 32 - column 6, line 13 figure 1; example 1	25,26, 54-56
X	DE 101 08 539 A1 (DPST BEHNERT GMBH) 12 September 2002 (2002-09-12)	1-3,5, 7-15
Y	paragraph '0008! - paragraph '0012! figures 1,2	25,26, 54-56
X	EP 0 228 969 A (TERUMO CORPORATION) 15 July 1987 (1987-07-15)	1-3, 7-14,21, 59-61
A	page 5, line 5 - page 11, line 9	5,15,22, 29,54-58
P,X	WILDGOOSE G G ET AL: "Abrasively immobilised multiwalled carbon nanotube agglomerates: a novel electrode material approach for the analytical sensing of pH." CHEMPHYSICHEM : A EUROPEAN JOURNAL OF CHEMICAL PHYSICS AND PHYSICAL CHEMISTRY. 17 MAY. 2004, vol. 5, no. 5, 17 May 2004 (2004-05-17), pages 669-677, XP002333660 ISSN: 1439-4235 the whole document	1-5, 8-15, 40-42, 45-53, 59-61, 71-73,76

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	<p>WILDGOOSE G G ET AL: "Graphite powder and multiwalled carbon nanotubes chemically modified with 4-nitrobenzylamine." CHEMPHYSICHEM : A EUROPEAN JOURNAL OF CHEMICAL PHYSICS AND PHYSICAL CHEMISTRY. FEB 2005, vol. 6, no. 2, February 2005 (2005-02), pages 352-362, XP002333661 ISSN: 1439-4235 the whole document</p>	<p>1-7, 21-40, 50-53, 62-70</p>

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Information on patent family members

International Application No

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